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| 09/703,323 | 10/31/2000 | Charles E. Schinner | 10002064-1 | 3237 |

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HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER

JERABEK, KELLY L

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2612

7

DATE MAILED: 08/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/703,323

Applicant(s)

SCHINNER, CHARLES E.

Examiner

Kelly L. Jerabek

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-5,9-11 and 14-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-5,10,11 and 14-24 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Response to Remarks:

Applicant contends (Amendment, page 6) that claim 10 has been rewritten to include the base claim 6 and the intervening claims 7-8. The Examiner respectfully disagrees. Claim 10 doesn't include the limitations of intervening claim 8, specifically claim 10 does not state that **the brightness algorithm determines a default brightness midway between a maximum brightness level and a minimum brightness level**. Therefore, claim 10 as amended does not include all of the limitations of the original claim 10 that was found to be allowable if rewritten in independent form.

Applicant contends (Amendment, page 7) that newly added claim 14 includes a limitation similar to the reasoning the examiner stated as allowable subject matter in the previous actions. Applicant contends that new independent claim 14 and its dependent claims 15-18 and 3-5 are in condition for allowance. The Examiner respectfully disagrees. Claim 14 doesn't include the limitations of intervening claim 8, specifically claim 14 does not state that **the brightness algorithm determines a default brightness midway between a maximum brightness level and a minimum brightness level**. Therefore, newly added

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claim 14 and its dependent claims do not include all of the limitations of the original claims that were found to be allowable if rewritten in independent form.

Applicant contends (Amendment, page 7) that newly added claim 19 includes a limitation similar to the reasoning the examiner stated as allowable subject matter in the previous actions. Applicant contends that new independent claim 19 and its dependent claims 20-24 are in condition for allowance. The Examiner respectfully disagrees. Claim 19 doesn't include the limitations of intervening claim 8, specifically claim 19 does not state that **the brightness algorithm determines a default brightness midway between a maximum brightness level and a minimum brightness level**. Therefore, newly added claim 19 and its dependent claims do not include all of the limitations of the original claims that were found to be allowable if rewritten in independent form.

Claim Objections

Claim 9 objected to because of the following informalities: "liquid crystal display unit is displaying camera status information and an object image" should read "liquid crystal display unit is displaying camera status information and **not** an object image". Appropriate correction is required.

Claims 18 and 23 objected to because of the following informalities: "lamination" should read "lumination". Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 14-16 rejected under 35 U.S.C. 102 (b) as being anticipated by Wagner US 5,933,130.

Re claim 14, Wagner discloses in figure 1 an anti-eye strain apparatus (10). The apparatus (10) includes a backlight control (20) for controlling the backlight (illuminator) of an LCD display (21) (col. 5, lines 51-62). This apparatus is used to control the backlight or brightness of a display. Additionally, the contrast may be varied alone or in conjunction with one or more features in order to reduce eye-strain (col. 7, lines 16-23). Therefore, the contrast level of the display (21) is adjusted to a default contrast level corresponding to a default brightness level of the backlight. It can also be seen in figure 8 that a user can set the backlight level to automatically adjust the display using a graphical user interface (col. 9, lines 17-25). The LCD displays shown in figures 7 and 8 show

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that the display unit (21) is displaying status information such as the brightness value bar.

Re claim 15, Wagner states that the control software and central processing unit are configured to allow the brightness of a backlight (illuminator) or a display (21) to be controlled (col. 7, lines 30-54). The brightness level of the display (21) can be set to any level of brightness relative to a maximum level (col. 7, lines 55-63). Therefore, the brightness level is set to a default brightness level.

Re claim 16, Wagner states that the general level of brightness may be 50% of the total brightness of the display (col. 7, line 60). Therefore, the default brightness level is midway between a maximum brightness level and a minimum brightness level.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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unpatentable over
Claims 19-21 rejected under 35 U.S.C. 103 (a) as being anticipated by

Miller et al. US 6,411,306 in view of Wagner US 5,933,130.

Re claim 19, Miller discloses in figure 4 an electronic camera (10) including a display device (22). The camera (10) includes an image sensor (12), a microprocessor (18), a memory (20), and a display device (22) (col. 4, lines 25-30). Therefore, the camera includes an image processing system for capturing, processing and storing images as well as a display unit for displaying images. Miller also states that the display device (22) may include a backlit LCD display (col. 5, lines 33-48). Additionally, the contrast of the backlit LCD display device (22) may be adjusted based on the brightness level of the display (col. 5, lines 41-48). Although Miller discloses all of the above limitations, he only states that an image is displayed on the display device. Therefore, he fails to distinctly state that the contrast of the display is adjusted to a default contrast level corresponding to a default brightness level whenever the display unit is displaying status information and not an image.

Wagner discloses in figure 1 an anti-eye strain apparatus (10). The apparatus (10) includes a backlight control (20) for controlling the backlight (illuminator) of an LCD display (21) (col. 5, lines 51-62). This apparatus is used to control the backlight or brightness of a display. Additionally, the contrast may be varied alone or in conjunction with one or more features in order to reduce eye-strain (col. 7, lines 16-23). Therefore, the contrast level of the display (21) is adjusted to a default contrast level corresponding to a default brightness level of

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the backlight. It can also be seen in figure 8 that a user can set the backlight level to automatically adjust the display using a graphical user interface (col. 9, lines 17-25). The LCD displays shown in figures 7 and 8 show that the display unit (21) is displaying status information such as the brightness value bar.

Therefore, it would have been obvious for one skilled in the art to have been motivated to include the LCD display capable of displaying status information such as a brightness value bar as disclosed by Wagner in the electronic camera including an LCD of varying contrast and brightness as disclosed by Miller.

Doing so would provide a means for allowing the brightness or contrast of an LCD displaying Auto Backlight commands to be varied (Wagner: col. 9, lines 18-25).

Re claim 20, Wagner states that the control software and central processing unit are configured to allow the brightness of a backlight or a display (21) to be controlled (col. 7, lines 30-54). The brightness level of the display (21) can be set to any level of brightness relative to a maximum level (col. 7, lines 55-63). Therefore, the brightness level is set to a default brightness level.

Re claim 21, Wagner states that the general level of brightness may be 50% of the total brightness of the display (col. 7, line 60). Therefore, the default brightness level is midway between a maximum brightness level and a minimum brightness level.

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unpatentable over
Claims 10-11 rejected under 35 U.S.C. 103 (a) as being anticipated by

Miller et al. US 6,411,306 in view of Rai et. al US 2002/0050974.

Re claim 10, Miller discloses in figure 4 a digital camera (10) including an image sensor (12), a display illumination sensor (14), a surround luminance sensor (16), a microprocessor (18), a memory (20), and a LCD display device (22) (col. 4, lines 25-30). The ambient light in the proximity of the LCD is measured using the surround luminance sensor (16) (col. 4, lines 34-38). Finally, the backlight level of the LCD is adjusted to a determined ambient light level in order to view images on the LCD (col. 5, lines 15-49). Although Miller teaches all of the above limitations, he does not disclose a brightness algorithm for determining when the back light level is at a maximum level and a contrast algorithm that adjusts the contrast when the backlight level is at a maximum level.

Rai discloses a LCD display unit (100) with a light collecting mechanism. A light-receiving device (1) measures the ambient light in the proximity of the display unit (100) (page 3, paragraph 45). The light-receiving device (1) is connected to a control circuit of the LCD display unit (100) that adjusts the brightness and contrast in accordance with the output signal of the light-receiving device (1) (page 3, paragraph 46). The light source (114) of the LCD display unit (100) is turned on and off according to the output signal of the first light receiving element (1). Thus, when the light source (114) is turned on it is at a maximum intensity level. In addition, the contrast ratio is adjustable in accordance with the

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light that illuminates the LCD display unit (100) (page 4, paragraph 58). It can be seen in figure 5B that the contrast level is adjusted when the light source (114) is set at a maximum level corresponding to ON. The preceding information clearly shows that the contrast of the display is adjusted when the backlight level is at a maximum. Therefore, it would have been obvious for one skilled in the art to have been motivated to include the LCD display system capable of automatically adjusting the contrast and brightness of the display according to ambient light as taught in Rai in the digital camera including automatic luminance and contrast adjustment for a display device disclosed by Miller. Doing so would provide a means for adjusting the contrast of the LCD display when the backlight level is at a maximum (turned on) in order to allow it to be viewed by a user in dark conditions (Rai: page 3, paragraph 54).

Re claim 11, Rai states that the brightness and contrast ratio may be varied between two or more steps (page 4, paragraph 55). The last step of increasing the contrast ratio will be the maximum contrast level. Rai states that the contrast ratio of the display is increased when in dark conditions when the light source (114) is on (page 3, paragraph 54). Therefore, it can be seen that the contrast level of the display is at a maximum contrast level when the increase is performed and the contrast is adjusted to the last step.

Claims 19-20, 22, and 24 rejected under 35 U.S.C. 103 (a) as being unpatentable over anticipated by Miller et al. in view of Hatakenaka et al. US 6,563,542.

Re claim 19, Miller discloses in figure 4 a digital camera (10) including an image sensor (12), a display illumination sensor (14), a surround luminance sensor (16), a microprocessor (18), a memory (20), and a LCD display device (22) (col. 4, lines 25-30). Miller also states that the display device (22) may include a backlit LCD display (col. 5, lines 33-48). Additionally, the contrast of the backlit LCD display device (22) may be adjusted to a default contrast level based on the brightness level of the display (col. 5, lines 41-48). Although Miller discloses all of the above limitations, he only states that an image is displayed on the display device. Therefore, he fails to distinctly state that the contrast of the display is adjusted whenever the display unit is displaying status information and not an image.

Hatakenaka discloses in figure 1 an electronic camera (1) including a display (8). Figures 4A and 4B show that the camera is capable of displaying a print menu on the display (8) (col. 6, lines 30-37). Thus, the display unit (8) is capable of displaying status information. Therefore, it would have been obvious for one skilled in the art to have been motivated to include the camera including a display capable of displaying status information such as a menu as disclosed by Hatakenaka in the digital camera including automatic luminance and contrast adjustment for a display device disclosed by Miller. Doing so would provide a means for allowing a user to perform operations using a menu on a display of a camera (Hatakenaka: col. 6, lines 38-43).

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Re claim 20, Miller states that in a backlit display, the backlight is adjusted to a brightness level (col. 5, lines 33-48).

Re claim 22, Miller states that the ambient light in the proximity of the LCD is measured using the surround luminance sensor (16) (col. 4, lines 34-38).

Re claim 24, Miller states that the display device (22) may be a backlit LCD (col. 5, lines 40-48).

Claim 23 rejected under 35 U.S.C. 103 (a) as being ^{unpatentable over} anticipated by
Miller et al. in view of Hatakenaka et al. and further in view of Rai. et al.

Re claim 23, the combination of Miller and Hatakenaka discloses all of the limitations of claim 22 above. However, Miller in view of Hatakenaka fails to distinctly state that the contrast level is adjusted when the backlight is at a maximum lumination level.

Rai discloses a LCD display unit (100) with a light collecting mechanism. A light-receiving device (1) measures the ambient light in the proximity of the display unit (100) (page 3, paragraph 45). The light-receiving device (1) is connected to a control circuit of the LCD display unit (100) that adjusts the brightness and contrast in accordance with the output signal of the light-receiving device (1) (page 3, paragraph 46). The light source (114) of the LCD display unit (100) is turned on and off according to the output signal of the first light receiving

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element (1). Thus, when the light source (114) is turned on it is at a maximum intensity level. In addition, the contrast ratio is adjustable in accordance with the light that illuminates the LCD display unit (100) (page 4, paragraph 58). It can be seen in figure 5B that the contrast level is adjusted when the light source (114) is set at a maximum level corresponding to ON. The preceding information clearly shows that the contrast of the display is adjusted when the backlight level is at a maximum. Therefore, it would have been obvious for one skilled in the art to have been motivated to include the LCD display system capable of automatically adjusting the contrast and brightness of the display according to ambient light when the backlight is at a maximum level as taught in Rai in the digital camera including automatic luminance and contrast adjustment for a display device displaying status information disclosed by Miller in view of Hatakenaka. Doing so would provide a means for adjusting the contrast of the LCD display when the backlight level is at a maximum (turned on) in order to allow it to be viewed by a user in dark conditions (Rai: page 3, paragraph 54).

unpatentable over
Claims 3-5, 14-15, and 17-18 rejected under 35 U.S.C. 103 (a) as being anticipated by Rai et al. in view of Hatakenaka.

Re claim 14, Rai discloses a LCD display unit (100) with a light collecting mechanism. A light-receiving device (1) measures the ambient light in the proximity of the display unit (100) (page 3, paragraph 45). The light-receiving device (1) is connected to a control circuit of the LCD display unit (100) that

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adjusts the brightness and contrast in accordance with the output signal of the light-receiving device (1) (page 3, paragraph 46). The light source (114) of the LCD display unit (100) is turned on and off according to the output signal of the first light receiving element (1). Thus, when the light source (114) is turned on it is at a maximum intensity level. In addition, the contrast ratio is adjustable in accordance with the light that illuminates the LCD display unit (100) (page 4, paragraph 58). It can be seen in figure 5B that the contrast level is adjusted when the light source (114) is set at a maximum level corresponding to ON. The preceding information clearly shows that the contrast of the display is adjusted when the backlight level is at a maximum. Although Rai discloses all of the above limitations, he only states that an image is displayed on the display device. Therefore, he fails to distinctly state that the contrast of the display is adjusted whenever the display unit is displaying status information and not an image.

Hatakenaka discloses in figure 1 an electronic camera (1) including a display (8). Figures 4A and 4B show that the camera is capable of displaying a print menu on the display (8) (col. 6, lines 30-37). Thus, the display unit (8) is capable of displaying status information. Therefore, it would have been obvious for one skilled in the art to have been motivated to include the display capable of displaying status information such as a menu as disclosed by Hatakenaka in the LCD display system capable of automatically adjusting the contrast and brightness of the display according to ambient light as taught in Rai. Doing so would provide a means for allowing a user to perform operations using a menu on a display of a camera (Hatakenaka: col. 6, lines 38-43).

Re claim 15, Rai states that the light source (114) of the LCD display unit (100) is turned on and off according to the output signal of the first light receiving element (1) (page 3, paragraphs 45-46). Thus, when the light source (114) is turned on it is adjusted to a default brightness level.

Re claim 17, Rai states that a light-receiving device (1) measures the ambient light in the proximity of the display unit (100) (page 3, paragraph 45).

Re claim 18, Rai states that the light-receiving device (1) is connected to a control circuit of the LCD display unit (100) that adjusts the brightness and contrast in accordance with the output signal of the light-receiving device (1) (page 3, paragraph 46). The light source (114) of the LCD display unit (100) is turned on and off according to the output signal of the first light receiving element (1). Thus, when the light source (114) is turned on it is at a maximum intensity level. In addition, the contrast ratio is adjustable in accordance with the light that illuminates the LCD display unit (100) (page 4, paragraph 58). It can be seen in figure 5B that the contrast level is adjusted when the light source (114) is set at a maximum level corresponding to ON. The preceding information clearly shows that the contrast of the display is adjusted when the backlight level is at a maximum.

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Re claim 3, the display unit disclosed by Rai is an LCD panel (page 3, paragraph 44).

Re claim 4, Rai discloses in figures 6A and 6B a second embodiment of the invention an LCD panel (100) that has an adjacent backlight (110) (page 4, paragraph 56).

Re claim 5, Rai states that a light may also be placed in front of the LCD panel (100) to illuminate the display (page 8, paragraph 110).

Allowable Subject Matter

Claim 9 would be allowable if rewritten or amended to overcome the objection on page 2 set forth in this Office action.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record fail to anticipate or render obvious the following technical features as recited in the highlighted claims:

- a. "...a control algorithm for measuring ambient light reflecting from an object in proximity to said liquid crystal display unit; and ...wherein said brightness algorithm determines a default brightness midway between a maximum brightness level and a minimum brightness level; and wherein

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said contrast algorithm adjusts said contrast level to default contrast level corresponding to said default brightness whenever said liquid crystal display unit is displaying camera status information and not an object image" as recited in claim 9.

Contacts

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kelly L. Jerabek whose telephone number is 703-305-8659. The examiner can normally be reached on Monday - Friday (8:00 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on 703-305-4929. The fax phone number for submitting all Official communications is 703-872-9306. The fax phone number for submitting informal communications such as drafts, proposed amendments, etc., may be faxed directly to the Examiner at 703-746-3059.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KLJ



NGOC-YEN VU
PRIMARY EXAMINER